

Comparison of alloxan and streptozotocin induced diabetes in rats: Differential effects on microsomal drug metabolism

Vega, Patricio

Gaule, Carlos

Mancilla, Jerson

Del Villar, Eugenia

1. Liver microsomes from alloxan or streptozotocin diabetic rats displayed differential drug metabolizing abilities in vitro. 2. Only streptozotocin liver microsomes exhibited changes in the cytochrome P-450 normal spectral characteristics. 3. Overall testosterone metabolism was significantly increased in streptozotocin diabetic liver microsomes, whereas it was markedly decreased in alloxan diabetes. Mixed function oxidase activity for aminopyrine was similar. 4. Glucuronidation reaction rates towards morphine, oestrone and p-nitrophenol were also markedly distinct in both models as well as after insulin treatment. 5. Results suggest that diabetogenic agents modify sex related isoenzymes of cytochrome P-450 differently and selectively reduce the synthesis of certain UDP-glucuronyltransferase forms. © 1993.